

SECRET**PRIORITY**

P 162100Z DEC 69
 FM NPIC WASHDC
 TO RCHOAAA/SAC OFFUTT AFB OMAHA NEBRASKA
 RCHOAAA/544TH ARTW, OFFUTT AFB OMAHA NEBRASKA
 RUHHABA/548TH RTG, HICKAM AFB, HAWAII
 RUCRJCS/DIA
 RUEFHQA/HQ USAF
 BT

16 DEC 69 21 271

09T 68986

S E C R E T. CITE NPIC 7626
 HQ USAF FOR AFIGOS, AFXOTR, AFNICAD
 SAC FOR DIRI, DOSR, DISD
 DIA FOR DIAXX-2
 SUBJECT: EVALUATION OF GIANT NAIL MISSION GA-T-140, FLOWN
 21 NOVEMBER 1969

1. IMAGE QUALITY: THE OVERALL IMAGE QUALITY AND INTERPRETATION SUITABILITY OF THIS MISSION IS GOOD. THE MAJOR DEGRADING FACTOR IS ATMOSPHERIC ATTENUATION. CLOUDS OBSCURE APPROXIMATELY 30 PERCENT OF THE ENTIRE MISSION. IMAGE MOTIO DEGRADATION, ATTRIBUTED TO VEHICLE VIBRATION, IS APPARENT AT MAGNIFICATIONS OF 25X AND ABOVE.

2. MISSION DATA:

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A. MISSION NUMBER: GA-T-140, 21 NOV 69
 B. CAMERA: IRIS II, SERIAL NUMBER: 8010
 C. A/C NUMBER: 340
 D. MODE: STEREO
 E. T/O: 0203Z, C/ON: 0402Z
 F. FILM TYPE: 3404, FILTER: W-23
 G. CHEMISTRY: MX578
 H. AVG, GAMMA: 2.49

3. ORIGINAL NEGATIVE:

A. EXPOSURE: GENERALLY ADEQUATE, BUT RANGES FROM SLIGHTLY UNDEREXPOSED AT THE BEGINNING OF THE MISSION TO SLIGHTLY OVEREXPOSED AT THE END OF THE MISSION.
 B. DENSITY AND CONTRAST: THE DENSITY IS GENERALLY MEDIUM; HOWEVER, BECAUSE OF THE HIGH CONTRAST WHICH PREVAILS THROUGHOUT MOST OF THE MISSION, SOME INFORMATION IS LOST IN BOTH THE HIGHLIGHT AND SHADOW AREAS.
 C. IMAGED DEGRADATIONS:
 (1) MULTIPLE FINE LONGITUDINAL MINUS DENSITY LINES ARE PRESENT THROUGHOUT THE MISSION.
 (2) MINOR BANDING IS DETECTABLE IN AREAS OF LOW DENSITY AND

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LOW CONTRAST.
 (3) A 0.2 INCH WIDE BAND OF FOG PROTRUDES 2.0 INCHES INTO THE TITLED EDGE OF THE FORMAT OF ALL FWD FRAMES. THE FOG PATTERN IS LOCATED 3 INCHES FROM THE TAKE-UP END OF THE FRAMES.

(4) FOG ASSOCIATED WITH CAMERA START-UP/SHUD-DOWN IS PRESENT ON THE FIRST AND LAST TWO FRAMES OF THE MISSION.

D. PHYSICAL DEGRADATIONS:

(1) NUMEROUS EMULSION LIFTS ARE PRESENT ON FRAMES 181, 991 AND THE LAST 6 FRAMES OF THE MISSION.

(2) THE FILM IS CREASED NEAR THE TITLED EDGE OF FRAMES 1208 THROUGH 1212. STATIC TRACES ASSOCIATED WITH THIS CREASE

ADVANCE CY
 SANITIZED
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SECRET

GROUP 1
 Excluded from automatic
 downgrading and
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ARE ALSO PRESENT.

(3) TITLING RESIDUE IS SMEARED INTO THE FORMAT OF SEVERAL FRAMES NEAR THE BEGINNING OF THE MISSION (EXAMPLES: FRAMES 87 AND 205 THROUGH 212).

(4) THREE ULTRASONIC SPLICES AND ONE HEAT SPLICE ARE PRESENT IN THE MISSION MATERIAL.

E. DATA RECORDING EQUIPMENT: FUNCTIONED PROPERLY THROUGHOUT THE MISSION WITH THE EXCEPTION OF THE MALFUNCTION WHICH OCCURRED ON FRAMES 44 AND 415 (PARA F).

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F. OTHER:

(1) THE CAMERA MALFUNCTIONED ON FRAMES 44 AND 415. LISTED BELOW IS THE SEQUENCE OF EVENTS WHICH OCCURRED DURING THE FAILURE MODE.

(A) NORMAL FWD EXPOSURE

(B) AFT EXPOSURE WITH A DOUBLE IMAGE OF THE DATA CHAMBER. THE FILM ADVANCED 0.5 INCH BETWEEN THE TWO EXPOSURES. THE FIRST DATA CHAMBER IMAGE INDICATES AN AFT EXPOSURE WHEREAS THE SECOND IMAGE INDICATES A FWD EXPOSURE. AN ELAPSED TIME OF APPROXIMATELY 9 SECONDS OCCURRED BETWEEN THE TWO DATA CHAMBER EXPOSURES. THE COUNTER DID NOT ADVANCE. ERRONEOUS SCAN ANGLE IMAGES ARE PRESENT ON FRAMES 44 AND 415.

(C) NORMAL AFT EXPOSURE.

(2) THE EVENTS SEQUENCE SUGGESTS THAT THE SUPPLY SHUTTLE WAS NOT FILLED WITH FRESH FILM, THE FILM DID NOT ADVANCE FOR AN EXPOSURE AND THE CAPPING SHUTTER DID NOT OPEN. AS A RESULT, A FWD EXPOSURE WAS DELETED FROM THE OPERATION EACH TIME THE MALFUNCTION OCCURRED.

(3) THE SUPPLY END OF THE IMAGERY IS COMPRESSED ON FRAMES 4 AND 49. THE DISTANCE BETWEEN THE 50 AND 70 DEGREE SCAN ANGLE MARKS FOR THESE FRAMES IS APPROXIMATELY 1 INCH

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SHORTER THAN NORMAL. IT APPEARS THAT FILM DECELERATION OCCURRED JUST PRIOR TO THE END OF THE EXPOSURE.

(4) THE FILM TITLING NOT ONLY FAILS TO MEET TITLING INSTRUCTIONS, BUT ALSO IS INCONSISTENT. NEAR THE BEGINNING OF THE MISSION ALL FWD AND AFT FRAMES ARE TITLED AT THE TAKE-UP END, WHEREAS MOST OF THE REMAINING FWD FRAMES ARE TITLED AT THE SUPPLY END AND THE AFT FRAMES ARE TITLED AT THE TAKE-UP END.

(5) THE LAST TITLED FRAME IS 1222. THE LAST COUNTER NUMBER IS 1226. A BIAS OF FOUR EXISTS THROUGHOUT THE MISSION.

4. POSITIVES: ADEQUATE FOR EXPLOITATION PURPOSES.

EOM

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END OF MESSAGE